## II. The Commission should reject the claim that the price cap LECs' earnings in 1991—1993 were unreasonable.

4. Several commenters claim that the price cap LECs' earnings in the initial price cap period, 1991-1993, were unreasonable. These complaints fail to recognize that: 1) price caps are designed to regulate ***prices***, not earnings; and 2) the price cap LECs' reported earnings overstate their true economic earnings. The Commission should reject complaints of overearnings because they are inconsistent with the Commission's goals in implementing price caps. If the Commission, nevertheless, decides to revisit the price cap LECs' rates of return, however, it must recognize the need to compare rates of return on a consistent basis: actual economic rates of return can only be compared to benchmark economic rates of return, and actual accounting rates of return can only be compared to benchmark accounting rates of return. At present, the Commission inconsistently compares the cost of capital, an economic rate of return, to the price cap LECs' actual accounting rates of return.

### A. Price caps are designed to regulate prices, not earnings.

5. The claim that the price cap LECs' earnings over the period 1991—1993 were excessive is irrelevant: price cap regulation is designed to control the level of the LECs' ***prices***, not the level of their earnings nor their rates of return. As the Commission correctly recognized in its NPRM, price cap limits assure that "rates are reasonable and lower than under rate of return regulation."[1] Furthermore, the carrier "gains the opportunity to earn higher profits, but may do

[1] ***Price Cap Performance Review for Local Exchange Carriers***, 9 FCC Rcd 1687 at ¶12 (1994)("NPRM").

so only by operating more efficiently or by developing new services customers want, not by raising overall prices."[2] The price limitation protects customers, while the earnings freedom provides incentive for network investment, innovation and new services. If the Commission responds to the overearnings complaints, it will forfeit these benefits of regulating prices rather than rates of return.

B. The price cap LECs' reported rates of return overstate their true economic rates of return.

6. The overearnings complaints incorrectly focus on the price cap LECs' *accounting* rates of return rather than their *economic* rates of return. Accounting rates of return are poor indicators of the return investors are actually receiving on their investment because accounting rates of return are based on 1) accounting rather than economic depreciation, 2) book values rather than economic values, and 3) accrued revenues and expenses rather than cash flows.[3] The true measure of what investors are getting on their investment is the economic rate of return. The economic rate of return for a company is functionally equivalent to the yield to maturity of an individual investment. The economic rate of return is the only rate of return that is directly comparable to the cost of capital.

7. The price cap LECs' accounting rates of return overstate their true economic rates of return partly because the price cap LECs' assets are under-

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[2]NPRM at ¶12.

[3]See, for example, Ezra Solomon, "Alternative rate of return concepts and their implications for utility regulation," ***The Bell Journal of Economics and Management Science***, Spring 1970, pp. 65-81; and Franklin M. Fisher and John J. McGowan, "On the Misuse of Accounting Rates of Return to Infer Monopoly Profits," ***American Economic Review***, Vol. 73, No. 1, March 1983, pp. 82-97.

depreciated. The IXCs and cable TV companies, who compete with the price cap LECs and employ similar technologies, typically have depreciation expense ratios (annual depreciation expense divided by average depreciable property, plant, and equipment) in the range of sixteen to nineteen percent. The price cap LECs, on the other hand, typically have depreciation expense ratios of approximately seven percent (see Schedule 1).[4] If the price cap LECs had the same depreciation expense ratios as the long distance carriers or cable TV companies, their earned rates of return would have been significantly lower during the period 1991-1993. As shown in Schedule 2, if the AT&T depreciation expense ratio had been used, average rate of return for the price cap LECs would have been only 7.47 percent, and 8.39 percent for the Bell Atlantic LECs. Similarly, if the cable TV depreciation expense ratio had been used, then the average rate of return would have been negative .54 percent and .42 percent for the price cap LECs and Bell Atlantic LECs respectively.

8. The economic rate of return on investment is defined as that discount rate which equates the present value of future cash flows from an investment to the initial cost of the investment. The economic rate of return can be used to measure both future expected rates of return and actual achieved rates of return. Therefore, the price cap LECs' actual economic rate of return over the

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[4]During 1991, 1992, and 1993, the weighted average depreciation expense ratio for Bell Atlantic was 6.8 percent, 7.1 percent, and 7.4 percent, respectively. In contrast, the average depreciation expense ratio for AT&T during this period was 14.2 percent, 10.2 percent, and 9.9 percent, respectively. The average depreciation ratio of companies in the cable TV industry is even higher than the depreciation ratio of the long distance carriers. For example, the weighted average depreciation expense ratio for a group of pure cable TV companies in 1991, 1992, and 1993 was 16.9 percent, 15.8 percent, and 18.5 percent respectively.

period 1991-1993 can be easily estimated by determining what discount rate will equate the present value of the price cap LECs' cash flows over the period 1991-1993 plus the present value of their investment at the end of 1993 to the cost of their investment at the end of 1990.[5] Using the replacement cost of the LECs' interstate assets to measure the amount of their investment at both the end of 1993 and the end of 1990, I have determined that the economic rate of return for Bell Atlantic's LECs during the period 1991—1993 was 8.25 percent (see Schedule 3). That is, 8.25 percent is the discount rate which equates the present value of Bell Atlantic's LECs' 1991 to 1993 cash flows plus the present value of the replacement cost of their investment at the end of 1993 to the replacement cost of their investment at the end of 1990.

9. The Commission should recognize that economic and accounting rates of return are not directly comparable. The cost of capital is an economic rate of return based on investor expectations and the capital markets. The Commission's 11.25 percent cost of capital is an economic rate of return that should not be used to evaluate accounting returns. To get an "apples to apples" comparison, the current 11.25 percent benchmark overall rate of return is most appropriately compared to economic earnings (e.g. for Bell Atlantic 8.25 percent).

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[5]The economic rate of return can be mathematically defined by the equation:

$$V_0 = \frac{C_1}{(1 + k)} + \frac{C_2}{(1 + k)^2} + \frac{C_3 + V_3}{(1 + k)^3}$$

where $V_0$ is the replacement cost of the interstate assets at the end of 1990; $C_1$, $C_2$, and $C_3$ are the interstate cash flows in 1991, 1992, and 1993, respectively; $V_3$ is the replacement cost of the interstate assets at the end of 1993; and $k$ is the economic rate of return for the period 1991 - 1993.

If the Commission prefers comparing price cap LECs' achieved ***accounting*** rates of return to a benchmark, that benchmark must also be an ***accounting*** rate of return. The 11.25 percent benchmark rate of return can be converted to an accounting rate of return by multiplying 11.25 by the ratio of the price cap LECs' accounting rates of return to their economic rates of return. Using the ratio of Bell Atlantic's average interstate accounting rate of return from 1991-1993 to its corresponding economic rate of return (13.03% / 8.25% = 1.58) as an indicator, the benchmark accounting rate of return should be approximately 650 basis points higher -- between 17 and 18 percent. (See Schedule 3, Page 2 of 2) A similar relationship would hold true for the price cap LECs as a group.

## III. The Commission should reject the claim that the price cap LECs have disinvested in their networks in recent years.

10. In support of their claim that the price cap LECs experienced excessive earnings in the 1991—1993 period, The Ad Hoc Telecommunications Users allege that the RHCs have disinvested in their local exchange subsidiaries (i.e., the BOCs) in recent years. The claim that the RHCs have disinvested in the BOCs itself is based on two inappropriate arguments: 1) the RHCs have allegedly "taken out more in annual depreciation charges than was introduced in gross plant additions";[6] and 2) the BOCs have allegedly "paid out more in cash dividends to

[6]Dr. Lee L. Selwyn, et. al., LEC Price Cap Regulation: Fixing the Problems and Fulfilling the Promise, Attachment A, Comments of The Ad Hoc Users Telecommunications Committee, CC Docket 94—1, page 67.

their parent RBHCs than their earnings for a particular year."[7] Neither of these two statements provide a correct test of the proposition that the RHCs have disinvested in the BOCs in recent years.

11. Comparing cash dividends to earnings for a particular year is an invalid test for the proposition that the RHCs have disinvested in the BOCs. Cash dividends are paid out of cash, not earnings. A more appropriate indication of the BOCs' investment policy is to compare the BOCs' cash dividends to the RHCs to their cash flows from operations. If the BOCs' cash flows from operations exceed the BOCs' cash dividends to the RHCs, then only one conclusion is possible: the RHCs are continuing to aggressively invest in the BOCs. From the publicly available data shown in Schedule 4, I have determined that the BOCs' cash flows from operations have ***exceeded*** their dividends to the RHCs by 42 billion dollars over the period 1991—1993. The proposition that the RHCs have disinvested in the BOCs, therefore, is false. In addition, the Commission should recognize that it is necessary to compare dividends to cash flows over a long time-frame, because investment levels may vary significantly in the short-run.

## IV. The Commission should reject efforts to reimpose rate of return regulation.

12. Commenters seek to 1) increase the productivity factor in response to the price cap LECs' earnings in the period 1991—1993; and 2) further reduce the price cap index by an additional 7.5% for the purpose of removing the

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[7]Dr. Lee L. Selwyn, et. al., LEC Price Cap Regulation: Fixing the Problems and Fulfilling the Promise, Attachment A, Comments of The Ad Hoc Telecommunications Users Committee, page 68.

price cap LECs' alleged overearnings during the 1991—1993 period. Both are thinly-veiled attempts to reimpose rate of return regulation. Under rate of return regulation, a firm's rates are based on the Commission's judgment of the firm's cost of capital, which becomes its authorized rate of return. If the firm increases its earnings beyond its authorized rate of return as a result of efficiency improvements or the introduction of successful new products, its likely "reward" will be a mandated decrease in its rates to bring its overall rate of return back to the authorized level. The effect of increasing the productivity factor and reducing the price cap index to take away alleged overearnings is the same as the effect of rate of return regulation: rates would be lowered because of productivity improvements and higher earnings during the first three years of the plan.

13. In its NPRM for this Docket, the Commission recognized many problems with rate of return regulation. In particular, the Commission noted that rate of return regulation: 1) "discourages efficient investment;" 2) "encourages cost shifting;" 3) provides "little profit incentive to introduce new and innovative services;" and 4) "requires elaborate regulatory oversight of all the carriers' costs."[8] The recommendations to increase the productivity factor and reduce the price cap index in response to alleged excessive price cap LEC earnings levels during the initial price cap period would produce the same deleterious effects as rate of return regulation.

14. The recommendations to increase the productivity factor and reduce the price cap index are based on the false assumption that the price cap

[8]NPRM at ¶11.

LECs' earnings were excessive in 1991—1993. The excessive earnings assumption, however, ignores the basic difference between the price cap LECs' accounting earnings and their economic earnings. As noted in ¶8, the price cap LECs' accounting earnings overstate their economic earnings by a significant margin. If the price cap LECs earnings had been properly measured using the economic rate of return, they would have earned rates of return low enough to trigger a low end adjustment. Instead, the price cap LECs were put in the sharing range because of the overstatement of their economic earnings.

15. The recommendations to increase the productivity factor to a level that will allegedly equate the price cap LECs' rate of return on investment to their cost of capital and simultaneously reduce the price cap index to take away the LECs' alleged overearnings during the 1991—1993 period would guarantee that investors have no opportunity, in the future, to earn a rate of return on their investment that is at least equal to the cost of capital. No rational investor would invest in telecommunications infrastructure under these rules. They certainly would not have an incentive to make the massive investments required to implement the President's plan for a National Information Infrastructure ("NII").

## V. The Commission should reject recommendations to retain the sharing mechanism and eliminate the low end adjustment.

16. The recommendation to retain the sharing mechanism and eliminate the low end adjustment should be rejected. Retaining the sharing mechanism and eliminating the low end adjustment would: 1) diminish the incentives for the price cap LECs to reduce costs, invest in new telecommunications infrastructure, or introduce new products and services; 2)

retain the regulatory reliance on arbitrary cost allocation rules; 3) increase the administrative burdens of regulation; 4) reduce the price cap LECs' ability to raise the capital necessary to build an advanced telecommunications infrastructure; and 5) produce an unfair competitive advantage for the IXCs, CAPS, and cable TV companies. In addition, the sharing mechanism and low end adjustment incorrectly rely on the price cap LECs' accounting rates of return rather than their economic rates of return. Because the price cap LECs' accounting rates of return overstate their economic rates of return, the price cap LECs have been artificially forced into the sharing range.

17. Retaining the sharing mechanism while eliminating the low end adjustment would give the price cap LECs no incentive to invest in the telecommunications network or the NII. If the price cap LECs earn rates of return above the cost of capital, they would have to share their earnings with ratepayers. On the other hand, if the price cap LECs earn rates of return below the cost of capital, the deficit would fall entirely on the shareholder. Since the earned rate of return is equally likely to fall above or below the cost of capital, the average, or expected, rate of return under this recommendation would be lower than the cost of capital. No rational investor would invest in telecommunications infrastructure if the average rate of return is expected to be lower than the cost of capital.

18. Lack of symmetry is not the only problem with the recommendation to retain the sharing mechanism and eliminate the low end adjustment. The sharing mechanism itself creates perverse incentives for the price cap LECs. As their earned rate of return approaches the 50 percent sharing threshold, the price cap LECs have significantly diminished incentive to become

more efficient, invest in telecommunications infrastructure, or introduce new profitable services, especially compared to alternative investment opportunities. As their earned rate of return approaches the 100 percent sharing threshold, the price cap LECs have absolutely no incentive to become more efficient or invest in new telecommunications infrastructure. At the 100 percent sharing threshold, any improvement in efficiency or introduction of profitable new services will only result in a rate reduction that leaves the price cap LECs' total profits unchanged.

19. As long as the Commission retains the sharing mechanism, the price cap LECs will be required to allocate costs between services through complex cost allocation manuals, and to allocate costs over time through complicated depreciation schedules. The allocations required by the revenue sharing mechanism, however, cannot be justified on economic grounds: they are essentially arbitrary. Thus, the large expense of the cost allocation procedures produces no economic benefits to either the ratepayer or the shareholder. By removing the sharing mechanism, however, the Commission can eliminate the need to make expensive and economically unjustified cost allocations.

20. The sharing mechanism increases the administrative burdens of regulation because it requires the Commission to regulate both prices and rates of return. Under price cap regulation, the Commission must review annual data on changes in the GNP-PI and evaluate long-run data on the difference between economy wide changes in total factor productivity and telecommunications industry specific changes in total factor productivity. Under rate of return regulation, the Commission must review and evaluate complex data on the participating companies' total expenses, rate of return, and rate base, as well as

allocate these items to different services. Under price cap regulation ***with*** a sharing mechanism, the Commission must review and evaluate not only inflation and productivity, but also expenses, rate base, and rate of return by product. Thus, the sharing mechanism requires the Commission to retain all the administrative burdens of rate of return regulation, while adding the administrative burdens of price cap regulation. Since a significant goal of price cap regulation is to ***reduce*** administrative costs, and the administrative costs of pure price cap regulation are less than the administrative costs of rate of return regulation, the Commission should eliminate the last vestiges of rate of return regulation, including the sharing mechanism.

21. The sharing mechanism, with its perverse incentives and administrative burdens, ***reduces*** true and effective competition in the telecommunications industry. In a truly competitive environment, a competitor gains market share by offering innovative new services, offering higher quality existing services, or producing services at a lower cost. Under the sharing mechanism, competitors gain market share because the price cap LECs are burdened with perverse incentives and administrative costs not borne by their competitors. The economic effect of the sharing mechanism is to create high profits for the price cap LECs' competitors at the expense of the price cap LECs. The sharing mechanism creates little or no economic benefits for society.

22. To meet the Commission's goal of attracting investment in the telecommunications infrastructure, the sharing mechanism would have to be based on a measurement of the price cap LECs' ***economic*** rate of return, not their accounting rate of return. Eliminating the sharing mechanism would eliminate any

requirement to measure the economic returns of the price cap LECs. It would also eliminate the distortions and disincentives caused by using accounting rates of return as a surrogate for economic rates of return.

## VI. The Commission should apply the same regulatory principles and methodologies to set the price cap LECs' interstate access rates as it applies to AT&T and the cable companies.

23. In setting interstate access rates, the Commission must recognize that the interexchange, local exchange, and cable TV industries are rapidly converging. Interexchange carriers and large cable companies are developing plans to offer telecommunications services to residential and business customers over their own networks, which provide access to millions of customers. AT&T's recent merger with McCaw Cellular Communications, Inc. provides a strong signal that interexchange carriers plan to compete with LECs for the provision of local exchange services. AT&T has announced that McCaw will be the centerpiece of its strategy to provide a national and international wireless network offering voice, data, and video services anywhere, at any time. The purchase of McCaw, of course, will allow AT&T customers to use AT&T for local and access services, in addition to toll services. MCI has recently purchased Western Union International's ATS division, an alternative access provider, and announced that it intends to develop a personal communications network and become a local exchange carrier, indicating that it also intends to become a one-stop provider of telecommunications services.

24. Through their ownership of competitive access providers, and through their own direct investment, cable companies are entering the

telecommunications industry and competing with LECs. For example, Telecommunications, Inc. is a part-owner of Teleport and has announced that it will invest $2 billion over the next several years to install fiber in its network so that it can be the multimedia carrier of choice for its customers.[9]

25. Given the rapid convergence of the interexchange, local exchange, and cable industries, it is essential that the interexchange carriers and the cable TV companies be held to the same regulatory standards as the price cap LECs. If one side were to gain an advantage through the regulatory process, the benefits of competition could be lost. In order for a competitive cable/telecommunications marketplace to develop, the Commission should set the price cap LECs' rates using the same principles and methodologies as it applies to the interexchange and cable TV companies. Regulatory parity requires that the Commission 1) eliminate the sharing and low-end adjustment mechanisms; 2) eliminate depreciation prescription; and 3) reduce the productivity factor to no higher than the amount mandated for cable.[10]

## VII. The Commission should reject the recommendation to lower the price cap index to reflect alleged changes in the cost of capital.

26. The recommendation to lower the price cap index to reflect alleged changes in the cost of capital is based on a fundamental misunderstanding

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[9] Mark Wrolstad, "TCI to build 'data superhighway'; Fiber-optic network to cost firm $ 2 billion", ***The Dallas Morning News***, at 1D (April 13, 1993).

[10] The Commission has preliminarily set the offset at two percent. ***Implementation of Sections of the Cable Television Consumer Protection and Competition Act of 1992: Rate Regulation***, Further Notice of Rulemaking, MM Docket No. 93-215 at ¶ 320 (rel. March 30, 1994).

of the purpose and implementation of price cap regulation. The Commission's price cap plan is designed to break the link between a company's prices and its costs, including its cost of capital. If the Commission changes the price cap index to reflect alleged changes in the cost of capital, it will reestablish the link between the price cap LECs' prices and their capital costs, thus depriving the price cap LECs of any incentive to reduce their capital costs through actions such as capital/labor mix decisions, debt refinancings, tougher underwriter and bank negotiations, and capital structure decisions.

27. The recommendation to lower the price cap index to reflect alleged changes in the cost of capital also fails to recognize that general changes in the cost of capital are already accounted for by changes in the GNP-PI, and that industry specific changes in capital costs, caused, for example, by differences in input mix, are already accounted for in the productivity offset. The productivity offset incorporates any differences between economy wide and telecommunications industry specific input prices. Thus, the benefits of any reductions in capital market costs that may have occurred during the initial plan period have already been passed through to ratepayers.

28. The AT&T recommendation to lower the price cap index to reflect alleged changes in the cost of capital correctly recognizes that general changes in the cost of capital are already accounted for by changes in the GNP-PI. Their recommendation, however, fails to recognize that industry-specific changes in the cost of capital are already accounted for in the productivity offset.

## VIII. The Commission should reject the erroneous cost of capital estimates proposed by the IXC commenters.

29. Two of the IXC commenters, MCI and AT&T, have submitted their own estimates of the LEC's cost of capital, and have used these estimates to argue that the Commission should reduce the LECs' rate of return benchmark. MCI and AT&T's arguments, however, are flawed in two respects. First, they significantly understate the cost of equity capital for the LECs. Second, they inappropriately rely on the RHCs' capital structure instead of the price cap LECs' capital structure.

### A. MCI and AT&T's cost of equity estimates underestimate the price cap LECs' true cost of equity.

30. MCI and AT&T's overall cost of capital estimates use cost of equity estimates that are biased downward by several flaws in their methodologies. First, they fail to recognize that the risk of investing in telecommunications has increased since 1990. Second, these estimates are based on a time period that does not reflect current higher capital market costs. Third, these estimates are based on the RHCs' Discounted Cash Flow (DCF) results that do not reflect the full growth potential of the RHCs' investments in cellular telephony, cable TV, video services, and other multimedia ventures. Fourth, they are based on an inappropriate DCF methodology. Fifth, the estimates are based on an incorrect capital structure for the price cap LECs.

31. Mr. Kahal, testifying on behalf of MCI, makes the claim that the risk of investing in the RHCs has not increased since 1990. This view ignores the

dramatic growth in competition, recognized by the Commission[11], and highlighted by Dr. Robert Harris' study for USTA, "Economic Benefits of LEC Price Cap Reforms" (p.9):

> "LECs face substantially greater competition in exchange services, from CAPs, cable TV operators, IXCs and wireless carriers. CAPs have obtained regulatory authorization and begun to provide exchange services, indicating their rapid expansion into switched access and exchange services by adding end office switches to their existing and/or expanded fiber optic rings. IXCs, especially MCI and AT&T, are entering access and exchange services from the 'opposite direction,' so to speak, as they add access facilities to their extensive, existing switching capabilities. Due to the rapid growth of competitors, their increasing size and resources means they have no disadvantage in obtaining financial, human and technical resources for competing with LECs."

32. In addition, Mr. Kahal fails to recognize that some of *Value Line's* risk indicators he relies on to support his claim that risk has not increased encompass a five-year time period that is too long to reveal recent increases in the risk of investing in telecommunications. To more accurately measure the changed risk of investing in telecommunications, I have computed betas[12] for a market

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[11] NPRM at ¶22

[12] Beta is a measure of stock price volatility relative to the market of all stocks. A value of beta equal to 1.0 indicates that the stock in question has the same risk as the average stock in the market. A beta greater than 1.0 indicates that the stock has a greater risk than the average stock in the market, and a beta less than 1.0 indicates that the stock has a risk less than the average stock in the market.

weighted index of the RHCs' stock prices for two periods of time: June 1, 1989 to May 31, 1991; and June 1, 1992 to May 31, 1994. As shown on Schedule 5, the RHCs' calculated beta for the earlier time period is .90, while the RHCs' calculated beta for the most recent period is 1.02. Empirically measured, the RHCs' market risk has increased.

33. Since the cost of capital is a forward looking concept, it is inappropriate to rely on cost of capital estimates for a historical period as measures of today's required rate of return. AT&T's estimate of the cost of equity is flawed because it relies on data for the period 1991-1993 rather than current cost of capital estimates. AT&T should have used recent data rather than historical data. Similarly, the MCI estimate, provided by Mr.Kahal, incorrectly uses a six-month average dividend yield over the period October 1993 to March 1994 as an estimate of the current dividend yield in the DCF model. As shown on Schedule 6, the RHCs' average dividend yield increased from 4.31 percent in October 1993 to 5.03 percent in March 1994, and rose further to 5.33 percent in May 1994. Clearly, Mr. Kahal's use of a six-month average dividend yield understates the current dividend yield for the RHCs. Since the DCF cost of equity is the sum of the current dividend yield and the expected growth rate, Mr. Kahal's use of a downwardly-biased dividend yield causes him to underestimate the RHCs' cost of equity.

34. The 102 basis point increase in the RHCs' average dividend yield from October 1993 to May 1994 reflects a general increase in the cost of capital over this period. As shown on Schedule 7, the interest rate on long-term Treasury

bonds rose from 5.94 percent in October 1993 to 7.41 percent in May 1994.[13] Likewise, the yield on Aa-rated utility bonds rose from 6.89 percent in October 1993 to 8.12 percent in April 1994 and continued to rise to 8.24 percent in mid-May 1994. Unquestionably, Mr. Kahal's use of an average cost of capital for the period October 1993 to March 1994 produces a downwardly-biased estimate of the ***current, forward-looking*** cost of capital.

35. MCI and AT&T's sole reliance on DCF estimates for the RHCs also causes underestimation of the price cap LECs' cost of equity. The RHCs have diversified into many investments, such as cellular telephony, cable television, and video services (collectively, "multimedia services"), that are in the early stages of their life cycles. Since the adoption of price caps, the emphasis on these growth areas has increased dramatically. These investments are not reflected at all in their historical growth estimates and are only partially reflected in analysts' five-year growth estimates. Yet, the RHCs' diversified investments have already had significant impact on the RHCs' stock prices. Using the RHCs' stock prices along with either historical or analysts' growth estimates seriously understates the DCF-based cost of equity for the RHCs. The Commission has recognized the problems the "Cellular Phenomenon" presented in estimating the cost of equity with RHC data.[14] The Commission should recognize that similar problems arise from the RHCs' investment in other multimedia services.

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[13] Current rates are even higher. The June 27, 1994 long-term treasury rate was 7.5 percent.

[14] ***Represcribing the Authorized Rate of Return for Interstate Services of Local Exchange Carriers***, Order, 5 FCC Rcd 7507 at ¶8 (1990) and Memorandum Opinion and Order, 6 FCC Rcd 7193 at ¶9 (1991).

36. In addition to the downward bias caused by their failure to include the full growth potential of the RHCs' investments in multimedia telecommunications services in their estimated growth rates, AT&T's and MCI's DCF results are also downwardly biased by their reliance on only the RHCs as a surrogate for the price cap LECs. Both of these firms erroneously assume that the only acceptable proxy group to the FCC is the RHCs. In its recent decision on a cable TV industry rate of return, the Commission has appropriately accepted the principle of a comparable firms analysis,[15] and it is appropriate to include a proxy group with "tightly compressed, homogeneous capital costs" here.[16]

37. Even if the FCC had specified the use of only telecommunications firms as appropriate proxies, which it did not, MCI and AT&T should have estimated the cost of equity for a more comprehensive group of telecommunications firms. With recent diversification, it is no longer appropriate to rely on the RHCs. If MCI and AT&T had used a more comprehensive sample of telecommunications companies with LEC subsidiaries, they would have obtained a significantly higher cost of equity result. Inclusion of companies such as Alltel, Century, Cincinnati Bell, GTE, Rochester Telephone, SNET, and Sprint would be

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[15] "No company for which the parties presented data engages only in provision of regulated cable service, and surrogate firms must thus be chosen to represent the risks of regulated cable in any cost of capital. The surrogate firms must comparable to those of regulated cable service, because our fundamental goal is to determine the return required to compensate investors for the perceived risks of regulated cable service and to attract capital to that service." ***Implementation of Sections of the Cable Television Consumer Protection and Competition Act of 1992: Rate Regulation***, Report and Order, MM Docket No. 93-215, ¶165-166 (rel. March 30, 1994).

[16] ***Represcribing the Authorized Rate of Return for Interstate Services of Local Exchange Carriers***, Memorandum Opinion and Order, 6 FCC Rcd 7193 at ¶37 (1991).

more representative of the price cap LECs' cost of equity than either the MCI or AT&T estimate. However, the DCF results for this expanded group of telecommunications firms would still be downwardly biased because the growth estimates do not include the full potential of these companies' multimedia investments.

38. MCI's and AT&T's DCF results are further biased downward because of the use of an incorrect DCF methodology. An annual DCF model that does not reflect the value of quarterly dividend payments, the proper increase in dividends expected at the end of the first year, or the effect of flotation costs is inconsistent with investors' expectations. The inclusion of these three factors would significantly increase both the magnitude and the accuracy of the DCF results.

B. MCI and AT&T's cost of capital estimates should be based on price cap LEC's capital structure.

39. The second major flaw in both MCI's and AT&T's estimate is their incorrect use of the capital structure of the RHCs in place of the capital structure of the price cap LECs. The average capital structure for the price cap LECs of the RHCs contains 59.03 percent common equity and 40.97 percent debt, while the RHCs' capital structure used by Mr. Kahal, on behalf of MCI, contains just 51.3 percent equity and 48.7 percent debt. Similarly, the capital structure used by AT&T contains just 52.06 percent equity and 47.94 percent debt.[17] The

[17] While AT&T did not specify a capital structure, it can be calculated based upon the cost of equity, cost of debt and overall cost of capital information provided in the AT&T page D-5.

use of an incorrect capital structure causes a significant underestimation of the price cap LECs' average cost of capital.

40. The use of the RHCs' average capital structure is incorrect because the RHCs' average capital structure does not reflect the actual financing of the price cap LECs' investments in telecommunications infrastructure. Some of the RHCs, for example, have financial subsidiaries whose capital structures appropriately reflect the high degree of leverage typically found in financial institutions. The capital structures of these subsidiaries should be removed from the RHCs' consolidated capital structure to better reflect the financing of the LECs' telecommunications infrastructure. All of the RHCs also have investments in cellular subsidiaries, and some of the RHCs have investments in cable television operations, that typically are financed with a high degree of leverage. Independent cellular and cable TV companies frequently are financed with book capital structures that contain 85 percent or more debt. The capital structures of the RHCs' cellular and cable TV subsidiaries should also be removed from the RHCs' average capital structure to better reflect the financing of the LECs' telecommunications infrastructure. In addition, the use of the RHCs' capital structure inappropriately includes the debt associated with the RHCs' Employee Stock Ownership Plans. Since all these differences are unrelated to the financing of the price cap LECs' telecommunications networks, the RHCs' consolidated capital structure simply does not reflect the capital structure used to finance the price cap LECs' telecommunications networks.

C. A corrected calculation show price cap LECs' cost of capital to be above 11.25 percent.

41. Since changes in the price cap LECs' cost of capital are included in the GNP-PI and the productivity factor, ratepayers have received the full benefits of any change in the cost of capital over the last three years. A new estimate of the LECs' cost of capital is required neither to reflect changes in capital market conditions nor to continue the price cap plan for another three years. However, since other commenters have presented erroneous cost of capital estimates, I have corrected their errors, substituted a more appropriate methodology, and include my estimate of the price cap LECs' cost of capital here.

42. The price cap LECs' overall cost of capital is conservatively calculated as 11.49 percent. This estimate is based on a cost of equity of 14 percent, a cost of debt of 7.88 percent, and a capital structure containing 59.03 percent equity and 40.97 percent debt. (See Schedule 11).

43. My 14 percent estimate of the price cap LECs' cost of equity is based on three cost of equity studies: 1) a DCF cost of equity study for a group of risk comparable companies; 2) a DCF cost of equity study for the third quartile of the S&P Industrials; and 3) a Risk Premium study of the cost of equity for both the S&P 500 and the S&P Utilities. My overall cost of capital of 11.49 percent employs a capital structure which accurately reflects the financing of the price cap LECs.

44. My DCF cost of equity studies produce results which more accurately reflect investors' expectations and which do not suffer from the infirmities found in the MCI and AT&T cost of equity estimates. First, as explained

in Schedule 8, I chose a group of firms with risk comparable to that of the price cap LECs, and which are less risky than the average firm in the Value Line universe. This group produces cost of equity estimates that do not have wide variability and do not suffer from the Cellular Phenomenon problems. Second, my DCF estimates are based on a quarterly model which recognizes the value that investors place on the receipt of quarterly dividends. Third, my model fully reflects investors' expected increase in dividends at the end of the first year. Furthermore, my cost of equity analysis of the S&P 400 is consistent with the FCC's use of that index as an reasonable proxy for interstate access cost of equity.[18]

45. As shown in Schedules 8 and 9, respectively, the average DCF result for my group of risk comparable companies is 14.18 percent and for the third quartile of the S&P Industrials, 14.11 percent. As shown in Schedule 10, the Risk Premium cost of equity is 14 percent.

46. As shown above in ¶9, an economic rate of return benchmark is relevant only when compared to the economic returns of the LECs. The 11.49 percent cost of capital is a market based estimate and therefore an economic benchmark. If the Commission were to continue to base its evaluations on accounting returns, the benchmark should be set on an equivalent accounting return basis -- approximately six hundred and fifty basis points higher. The more appropriate course of action would be to rely on pure price cap regulation, allow

[18] Order, 5 FCC Rcd 7507 at ¶182 (1990). Since the time of the Commission's Order, Standard & Poor's has changed the name of this group of stocks from "S&P 400" to "S&P Industrials".

the incentives of that regulation to take hold, and thereby encourage investment and robust competition.

## Price Cap LECs and AT&T
## Interstate Depreciation Expense Ratios
## 1991-1993

| Company Name | 1991 Depr Exp Ratio | 1992 Depr Exp Ratio | 1993 Depr Exp Ratio |
|---|---|---|---|
| Ameritech | 6.7% | 6.9% | 6.7% |
| Bell Atlantic | 6.8% | 7.1% | 7.4% |
| BellSouth | 7.3% | 7.2% | 7.3% |
| Contel | 6.0% | 6.8% | 4.6% |
| GTE | 5.4% | 7.0% | 7.4% |
| NYNEX | 7.6% | 7.9% | 7.9% |
| Pacific Telesis | 7.0% | 6.9% | 6.7% |
| Rochester Telephone | 6.7% | 6.6% | 6.4% |
| SNET | 7.5% | 6.6% | 7.6% |
| Southwestern Bell | 6.7% | 6.5% | 6.2% |
| US West | 6.9% | 6.5% | 6.7% |
| United | 6.4% | 7.4% | 6.7% |
| **Wtd Avg Price Cap LECs** | **6.8%** | **7.0%** | **7.0%** |
| AT&T | 14.2% | 10.2% | 9.9% |

Note: Depreciation Expense Ratio is: $\frac{\text{Depreciation on Telephone Plant in Service}}{\text{Average Telephone Plant in Service before Amortizable Assets - Land}}$

Data Source: Form M/ARMIS 43-02